

ATTORNEY DOCKET NO. 742429-8
Application No. 10/718,559

This listing of claims replaces all prior versions and listing of claims in this application:

1. (currently amended) ~~An improved A~~ process for the preparation of biodiesel, which comprises comprising:
 - i) heating an oil having a by specific gravity in the range of 0.85-0.96 and an iodine value not exceeding 208, to a temperature not exceeding 120°C for not less than 2 hours; hrs
 - ii) transesterifying the oil followed by transesterification with 8 to 42% w/w of alcohol of general formula R-OH, where R represents (C_nH_{2n+1}), wherein n is an being any integer from between 1 and 5, in presence of not more than 0.55% w/w, of a catalyst, at a temperature higher than the boiling point of the alcohol but not exceeding 215°C for a period of not less than 30 minutes under continuous turbulent conditions to obtain a mixture of ester and glycerol,
 - iii) subjecting the mixture, as formed in step (i) to separation of separating the esterified oil from the mixture for a period of not less than 4 hours; hrs followed by
 - iv) purifying the mixture purification for a period of not less than 8 hours, wherein the purification step involves bubble washing; hrs and
 - v) repeating steps iii) and iv) the process of separation as well as purification in succession for not less than three times to obtain a biodiesel.
2. (currently amended) The process of A process, as claimed in claim 1, wherein the oil is selected from the group consisting of ricebran oil, cottonseed oil, soybean oil, sunflower oil, castor oil, and coconut oil.
3. (currently amended) The process of A process, as claimed in claim 1, wherein the alcohol is selected from the group consisting of methanol, ethanol, n-propanol, n-butanol, and n-pentanol.
4. (currently amended) The process of A process, as claimed in claim 1, wherein the catalyst is selected from sodium hydroxide[,] or potassium hydroxide.

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5. (currently amended) The process of A process, as claimed in claim 1, wherein the separation step involves esterified oil is separated by decanting, centrifuging, gravity separation, settling, or a combination thereof either alone or in any combination.
6. (currently amended) The process of A process, as claimed in claim 1, wherein the purification step additionally involves of the mixture is by bubble washing involving bubble size of 1-3mm, micro filtration with not less than 5micron filter, centrifuging, or a combination thereof either alone or in any combination.
7. (currently amended) The process of A process, as claimed in claim 1 wherein the continuous turbulent conditions are maintained at a Reynolds number (NRe) for maintaining turbulence is adjusted at not less than ranging from 4000 to 10,000 irrespective of the type of reactor.
8. (new) The process of claim 1, wherein the bubble washing involves bubbles having a bubble size ranging from 1-3 mm.
9. (new) The process of claim 6, wherein the filter size of the filter in the micro filtration is not less than 5 micron.